

AMENDMENTS TO THE SPECIFICATION:

[23.5] The circuit alternatively or additionally provides one or more exit spurs 22r1, 22r2 which may be utilized to unload, offload, repair, replace, modify and/or otherwise add or remove molds 24 from the circuit 22. Preferably, a minor repair exit spur 22r1 from the circuit 22 provides for minor mold repair of a mold ~~22d~~^{24d} essentially on-line. For major repairs, a transportation device such as a dolly, forklift, or other transportation may be moved adjacent the exit spur 22r2 to remove the mold 24D to a location remote from the circuit 22. Likewise, the molds 24 may also be removed and returned to a mold storage area S such that various batches of molds can be specifically provided in real time to meet particular customer orders by retrieving particular less utilized molds from the mold storage areas S.

[24] Referring to Figures 2 and 3, the system 20 is schematically illustrated as separated in Zones by operation. Zone 1 is a spray Zone in which the mold ~~2224~~ is sprayed with a layer of resin referred herein as "gelcoat". The gelcoat, as generally known, is a hardenable resin that becomes the visible surface of the finished product. Zone 1 is a spray booth station in which a spray robot (illustrated schematically at ~~24A25A~~ in Figure 1) moves along and traverses relative a rail mount 26. Zone 2 is also a spray Zone which is separated into a first spray Zone 2a and a second spray Zone 2b. Zone 2b is a spray Zone in which the mold ~~2224~~ is sprayed with a first layer of resin/catalyst/chopped fiberglass mixture referred herein as "first chop". Zone 2a is a spray Zone in which the mold ~~2224~~ is sprayed with a second layer of the resin/catalyst/chopped fiberglass mixture referred herein as "cover". A second spray robot ~~24B25B~~ is also located within Zone 2 and preferably moves along rail mount 26. The second robot ~~24B25B~~ preferably traverses between Zone 2a and Zone 2b such that robot ~~24B25B~~ utilization is one hundred 100 percent. That is, robot ~~24B25B~~ is never idle when the molding system 20 is operational as it is alternatively spraying the same mixture into Zones 2a and 2b.

[28] Zone 8 is where a completed part is removed or "pulled" from the mold 2224, i.e., demolded after it has passed through lap C. Zones 8-10a is where the bare mold is wiped down and cleaned after demolding.

[29] Zone 10a provides for continued wiping while Zones 10b and 10c (Figure 1) also operate as a staging area for molds 2224 which are waiting to move into the spray Zones 1, 2a, and 2b. The molds 24 are also separated by lap in Zone 10. Molds which are on lap A and C are staged along rail 22a (Figure 1) for Zone 1 and 2a while molds on lap B are staged along rail leg 22b (Figure 1) for Zone 2b. Preferably, molds travel to Zones 1 and 2 in a down minute of the robot so full time is available for spraying.

[31] Zones 4a/5a queue the molds on laps A and B in a BABABABA arrangement while Zones 4b/5b queue only the molds on lap C (Figure 1). Notably, between Zone 2 and Zone 4 is an arbitrary line which is designated Zone 3 where a lap is completed and the lap designation is increased by one as will be further described. Two molds 2224 leave Zones 4a/5a only after one mold leaves Zones 4b/5b such that molds within Zone 6 are always sequenced in sets of three in a CAB order (Figure 1).

[41] At POSITION THREE, the C mold and the A mold remain in the same Zones. As the C mold and A mold remain in the same Zone as POSITION TWO, the lap designators schematically move to the central portion of their respective box to indicate that the molds are spending their second minute in the same Zone. The B mold moves into Zone 2b and the lap designator is schematically moved to the top of the Zone 2b box to indicate that the B molds is spending its first minute in the 2b. Schematically, the Zone 2a box and Zone 1 box is hatched as the respective C mold and A mold are undergoing the first minute of the spray operation. Specifically, the C mold is undergoing the first minute of the cover coat spray by robot 24B25B, while the A mold is undergoing the first minute of the gelcoat spray by robot 24A25A.

[43] Schematically, the Zone 1 box is shaded as the A mold is undergoing the second minute of the gelcoat spray by robot 24A25A. No operation is performed on the C mold. Schematically, the Zone 2b box is hatched as the B mold is undergoing the first minute of

the chop spraying operation. That is, robot 24B25B (Figure 1) pivots away from the C mold to provide the first minute of chop coat spray to mold B. Further, if the cover coat spray by robot 24B25B is completed early, robot 24B25B can immediately thereafter pivot to begin the chop coat spray to mold B.